## INTERNATIONAL SEARCH REPORT

Interna.....pplication No PCT/EP2004/004082

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 H03H9/64

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

 $\begin{array}{ll} \mbox{Minimum documentation searched (classification system followed by classification symbols)} \\ \mbox{IPC 7} & \mbox{H03H} \end{array}$ 

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, INSPEC, COMPENDEX, IBM-TDB

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Х	EP 1 158 670 A (MATSUSHITA ELECTRIC IND CO LTD) 28 November 2001 (2001-11-28) figures 11,12	1,2,7-13
Υ	11gures 11,12	3,4,6
X	DE 100 25 450 A (EPCOS AG) 29 November 2001 (2001-11-29) figure 3	1,7,9-13
X	US 4 647 881 A (MITSUTSUKA SYUICHI) 3 March 1987 (1987-03-03) figure 1	1
Y	DE 100 13 861 A (EPCOS AG) 27 September 2001 (2001-09-27) cited in the application figures 1,2,5,6	3,4,6
	-/	

X Further documents are listed in the continuation of box C.	Patent family members are listed in annex.	
"A" document defining the general state of the art which is not considered to be of particular relevance  "E" earlier document but published on or after the international filling date  "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  "O" document referring to an oral disclosure, use, exhibition or other means  "P" document published prior to the international filing date but later than the priority date claimed	reneral state of the art which is not dicular relevance or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention ow doubts on priority claim(s) or sh the publication date of another reason (as specified)  The publication of the international or cannot be considered to involve an inventive step when the document is taken alone or cannot be considered to involve an inventive step when the document is taken alone or cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.	
Date of the actual completion of the international search	Date of mailing of the international search report	
30 March 2005	2 1, 04, 2005	
Name and mailing address of the ISA  European Patent Office, P.B. 5818 Patentlaan 2  NL - 2280 HV Rijswijk  Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  Fax: (+31-70) 340-3016	Authorized officer  Radomi rescu, B-M	

## INTERNATIONAL SEARCH REPORT

Intern: .. Application No PCT/EP2004/004082

Category °	ation) DOCUMENTS CONSIDERED TO BE RELEVANT  Citation of document, with indication, where appropriate, of the relevant passages	Relevant to daim No.
A	US R E33 957 E (TOYO COMMUNICATION EQUIPMENT AND CO. (JP)) 9 June 1992 (1992-06-09) figures 13,14	1-13
A	DE 198 18 826 A (SIEMENS MATSUSHITA COMPONENTS) 4 November 1999 (1999-11-04) figure 9	3-6
		£
	·	

## INTERNATIONAL SEARCH REPORT

Intern ...... Application No PCT/EP2004/004082

				T
Patent document cited in search report	Publication date		atent family member(s)	Publication date
EP 1158670 A	28-11-2001	EP US 20 CN WO TW	1158670 A1 02163402 A1 1338148 A ,C 0143284 A1 498614 B	28-11-2001 07-11-2002 27-02-2002 14-06-2001 11-08-2002
DE 10025450 A	29-11-2001	DE WO	10025450 A1 0191294 A1	29-11-2001 29-11-2001
US 4647881 A	03-03-1987	JP JP JP DE FR GB NL	1642724 C 3003411 B 61094409 A 3539697 A1 2590078 A1 2182514 A ,B 8503103 A	28-02-1992 18-01-1991 13-05-1986 14-05-1987 15-05-1987 01-06-1987
DE 10013861 A	27-09-2001	TW	10013861 A1 2403770 A1 1419739 A 0171911 A1 1269627 A1 03528523 T 508905 B 03160665 A1	27-09-2001 20-09-2002 21-05-2003 27-09-2001 02-01-2003 24-09-2003 01-11-2002 28-08-2003
US RE33957 E	09-06-1992	JP JP JP DE US	1865250 C 2016613 B 59131213 A 3382058 D1 4542356 A	26-08-1994 17-04-1990 28-07-1984 24-01-1991 17-09-1985
DE 19818826 A	04-11-1999	DE	19818826 A1	04-11-1999